

### **Amendments to the Drawings**

The replacement drawing sheet, which is presented in **Attachment A**, includes changes to Figure 1. Specifically, label 109 was modified, to include its function of a “Network Circuit” as disclosed in the Specification at page 11, line 109.

### **Attachment A: Replacement Drawing Sheet**

## **REMARKS**

Reconsideration of the application in light of the amendments and the following remarks is respectfully requested.

### **Status of the Claims**

Claims 1-5 are pending. Claims 1 and 3 have been amended. No new matter has been added.

### **Status of the Specification**

The Examiner has objected to the Specification for containing informalities. These informalities have been addressed by appropriate amendment of the Specification. Applicants request withdrawal of this objection.

### **Preliminary Amendment and IDS Filed Concurrently with the Application.**

Concurrently with the mailing of this application on June 24, 2005, Applicants submitted a Preliminary Amendment and an Information Disclosure Statement. A copy of the acknowledged return-receipt postcard included in the mailing of this application is presented in **Attachment B**. The stamped postcard demonstrates that the "First Preliminary Amendment (6pp)," the "IDS (2pp)," and the "PTO/SB/08A (1pg)," were included in the papers received by the Patent Office with the mailing of this Application. A copy of the Preliminary Amendment as submitted can be found in **Attachment C**, and a copy of the IDS and associated PTO/SB/08A can be found in **Attachment D**.





mathematical operations on matrices to produce a score matrix. If the system is provided with a given set of protein profile matrices, the same score matrix will be repeatably produced. Thus, the claimed invention produces a concrete result.

In *State Street Bank & Trust Co. v. Signature Financial Group*, 149 F.3d 1368, 1373 (Fed Cir. 1998.), the court held that “the transformation of data, representing discrete dollar amounts by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula or calculation, because it produces a ‘useful, concrete and tangible result’ - a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” Similarly, the present invention transforms data, representing protein profiles, through a series of mathematical calculations into a score matrix, constitutes a practical application of a mathematical algorithm, formula or calculation because it produces a useful, concrete and tangible result - a score matrix that can be relied upon to predict the three-dimensional structure of proteins.

Therefore, for at least the reasons discussed above, claim 1 is directed to a concrete, tangible, and useful result. Thus, claim 1 recites statutory subject matter under 35 U.S.C. § 101.

Claim 2 further recites, “predicting a protein three-dimensional structure . . . using a score matrix formed through a system set forth in claim 1.” Thus, as discussed above, the score matrix is a useful, concrete, and tangible result, and the three-dimensional protein structure predicted by claim 2 is a useful, concrete and tangible result. Therefore, claim 2 is directed to statutory subject matter.

### Claims 3 and 4

With respect to claims 3 and 4, Applicants appreciatively acknowledge the Examiner's assistance in drafting statutory claim language. Applicants have amended claim 3 to recite "and executable program embodied in a computer readable medium for enabling a computer to function as system," as suggested by the Examiner. Thus, Applicants submit that claims 3 and 4, as amended, recite statutory subject matter and are in condition for allowance.

Applicants respectfully request reconsideration and withdrawal of these rejections.

### Claim 5

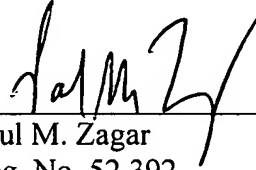
With respect to claim 5, Applicants submit that claim 5 is a method claim directed to "measuring the similarity between protein profile matrices to predict a protein three-dimensional structure." Claim 5 recites similar subject matter to that recited by claims 1-4. Furthermore, for at least the reasons discussed above with respect to claims 1 and 2, claim 5 recites statutory subject matter. Therefore Applicant respectfully requests favorable action with respect to claim 5.

### CONCLUSION

Each and every point raised in the Office Action dated July 26, 2006 has been addressed on the basis of the above amendments and remarks. In view of the foregoing it is believed that claims 1-5 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Respectfully submitted,



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